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Southern Pines Pay

A Story In Pictures



UNITED STATES DEPARTMENT OF AGRICULTURE

Miscellaneous Publication No. 657



F-363412

Timber production is a form of land use to which large areas in the South are best adapted.

Cover photos: Reforesting cut-over land. Eighteen years elapsed between the taking of the two pictures. ✚ marks the same spot. The trees have grown to 40 feet in height and 8 inches in diameter.

COVER ILLUSTRATIONS—F-32707A (LOWER) AND F-319936 (TOP)

A STORY IN PICTURES

By WILBUR R. MATTOON, *senior forester, Forest Service*

TIMBER FARMING IN THE SOUTH

TIMBER growing or forest farming is now a major industry in the South.

In the old days lumbermen found the forest already grown. Not until the old growth was practically all cut off did people begin to realize that if there was to be timber in the future it must be grown as a crop.

Trees, like other crops, require some attention if they are to yield the highest returns. They need to be protected from fire and to be properly harvested; but, unlike most crops, they require no cultivation, no fertilizer, and only a small amount of care.

Timber farming means protecting trees and forests from fire and using the ax and saw rightly. How should these tools be used? First, instead of harvesting the trees when young and small, allow the straightest and best trees to grow to make high-quality products, such as poles, piling, veneer bolts, and sawlogs. Meanwhile cut out and use all the poorer and crowded trees. When such cutting is rightly done, the products obtained will usually pay for the operation. Incidentally, good practice involves pruning the lower limbs, which increases both the quality and the value of the resulting timber growth.

With a little thought and action, timber farming can be made to pay. Timber stands can be cut so as to yield harvests every few years. Owners are sacrificing hundreds or thousands of dollars yearly by cutting their timber when too young, cutting only the most promising trees, or cutting the stands too clean. The average small owner should cut lightly and frequently. Large timberland owners can afford, if they wish, to cut somewhat more heavily and less frequently.

Because trees grow rapidly and reclaim waste lands readily, if protected from fire, timber farming in the Southern States is not difficult. Moreover, the wide variety of products obtainable from southern pines at various stages of growth and the valuable uses which trees serve make the practice of forestry in the Southern States an attractive proposition.



Profitable Use of Worn-out Lands

ON A FARM in central Mississippi, back of the barn is a worn-out hillside that lay idle for 9 years. The farmer who owned it often wished pines would "come in," but none came. One night he attended a meeting in the neighborhood schoolhouse and heard a visiting forester tell how to plant trees to make idle lands pay. The farmer went home and the next spring (1926) planted pines 8 by 8 feet apart on the land. In 4 years the trees were 8 to 12 feet high; when pruned at 6 years of age they were 12 to 20 feet in height. Some 5 years later, after 11 years' growth, they were 25 to 40 feet in height and up to 8 inches in diameter, and improvement thinnings had furnished both pulpwood for sale and fuel wood for the farm.

Watch these trees grow: A, After the first year's growth, age of trees 2 years (April 1927); B, the trees are now (October 1929) 4 years old; C, after 2 more years' growth (April 1932) the pines were pruned; D, the planting, now 11 years old (October 1936), has already furnished an economic return in the form of pulpwood and fuel.

A-F-216871

B-F-240741

C-F-267363

D-F-332925





F-209338

Four months after the land was set in 1-year-old seedling slash pines (June 1926).



F-256238

In 5 years the trees grew to 10 to 16 feet in height and increased the value of the property every year (January 1931).

From Sand Hills to Forest

A FARMER living in the heart of the sand-hill lands in South Carolina decided to plant pines as a possible paying crop after cotton and corn and everything else he had tried had failed. The native growth before cultivation consisted of scrub oak and pines. The pine seedlings were planted in the spring of 1926. When viewed in July 1938, the stand at the age of 13 years contained many trees 35 to 45 feet high and 6 to 9 inches in diameter at breast height, and a few more than 12 inches in diameter.

F-3676C8

The same planting as that pictured on the opposite page, now 13 years old (July 1938). The largest tree is 12 inches in diameter, and it is time to start turpentine those to be removed in improving the stand.



Loblolly Crop in a Borrow Pit

PINES will grow in poor soil, but they grow faster in good soil. A demonstration of poor soil put to productive use in growing pines is to be found in the piedmont section of Georgia. An old borrow pit from which dirt was taken in bringing one of the main highways to grade was set to loblolly pines (black pines) in 1927. The department of forestry of the State College of Agriculture supervised the planting and erected a signboard to call the attention of the passing public to the future timber tract.

One year after pines were planted in an old borrow pit (October 1927).

F-230238





F-277512

Now making their sixth year's growth since setting, the trees in the old borrow pit are 14 to 18 feet in height, shading the ground and growing rapidly (June 1933).



GA. EXT. SER.

These sturdy 10-year-old trees (February 1937) are the same ones shown above. Some of them are 7 inches in diameter at breast height and 25 feet tall. The stand needs thinning. It would furnish fuel wood and will soon yield pulpwood.



F-256249

Planting 1-year-old longleaf pine seedlings in heavy broomsedge cover (January 1931).

The seedlings shown above have grown to about 20 feet in height and 3 to 4 inches in diameter (July 1938).

F-366988

Longleaf pine grows slowly during the first 3 years or so, making a small top growth but a large, deep taproot. The young seedlings may be successfully transplanted from nursery beds to woods or field by exercising care. Longleaf is a sturdy tree, unusually resistant to attack by insects and disease. The farmer-owner of the tract pictured on this page is re-foresting several hundred acres of very sandy land which he cannot make pay in field crops.



Scouts of Macon, Ga., planting seedling trees in November 1923

F-182192

Dual Crops From Idle Acres

SLASH and longleaf are classed as dual-purpose trees and can be used for producing two crops—turpentine and timber.

The Boy Scouts of Macon, Ga., had some old fields on their 90-acre tract at Camp Al-Sihah. Their leader called in the visiting Federal extension forester, who suggested they plant it to trees for timber and turpentine production. The trees were planted in November 1923 but were dry when planted, and most of them died. However, 1,000 thrifty slash pine seedlings were planted the next spring, and the former bare land is now a forest where rabbits and other game find food and cover. In a very few years the trees will reach 9 inches in diameter, when profitable turpentine can be started.

A, After 3 years' growth many of the trees are taller than the Scouts who planted them, this one being 9 feet high (October 1927); B, 12 years later the Scout pictured in A is assistant scoutmaster and the tree is 40 feet high, 9½ inches in diameter, and is being turpentine for the second year (April 1939).

F-223366

F-379325





F-37130-A

Slash pines from broadcast seeding, mostly hidden in the grass which in this wet soil acts as a natural nurse against sun and drying winds (March 1918). The seed was sown in November 1917.



The same stand shown above, 18 years later (March 1936). Five cords of wood per acre could now be cut and in a few more years the stand could be worked for turpentine.

F-319937

Seeding—By Man and Nature

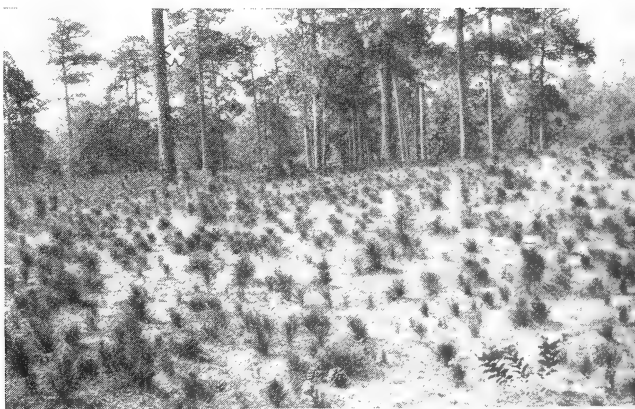
PINE TREES spring up only from seeds. Sowing pine seeds by hand on land to be reforested is not commonly practiced because of the heavy losses of seeds and seedlings occasioned by insects and birds and the irregularity of the resulting stand of trees.

The usual way of reforesting land is to plant nursery-grown seedlings. In many places, however, sowing slash pine seed directly on low, wet land has been successful. On the previous page are pictures of such a planting on flat, cut-over, "crayfish" lands on the Coastal Plain of South Carolina. At 18 years of age some of the trees were 40 feet in height and 10 inches in diameter. They might have been even larger if one or more thinnings had been made.

On cut-over lands where ample trees have been left to scatter seed, pines often come back naturally. The pictures on this page show a tract of sandy land in western South Carolina reforested by wind-scattered seed of longleaf pine under favorable weather and fire protection. The stand appears almost as if planted by hand.

As seedlings, longleaf pines develop a deep, heavy tap-root and almost no stem for the first 3 to 5 years, during which they appear as green tufts on the ground (June 1926).

F-209395



Six years later the seedlings shown in the upper picture have grown into saplings ranging in height from 7 to 10 feet (April 1932). The growth rate has been moderate because the soil is poor and sandy.

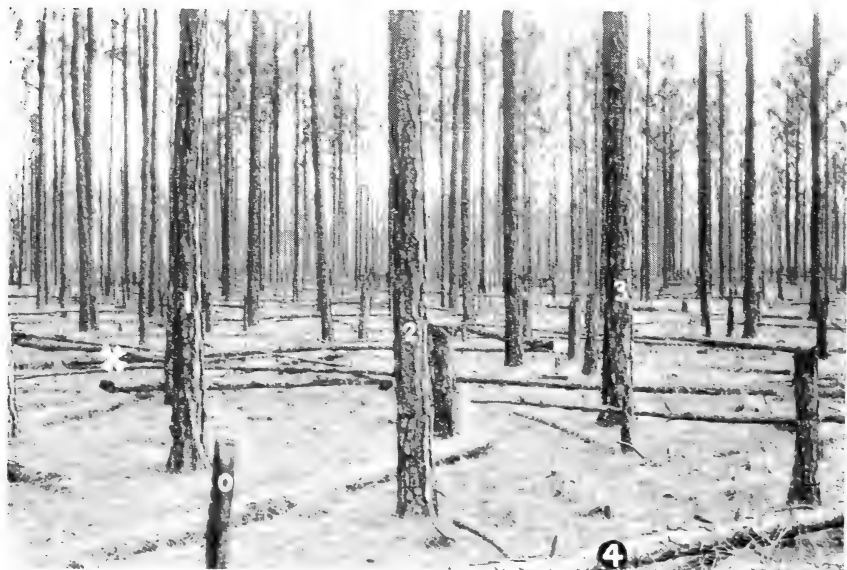
F-266647





F-266681

A thrifty, valuable stand of longleaf pines (April 13, 1932).



F-267421

How the stand shown in the upper picture looked the next day after the fire (April 14, 1932).

Loss and Ruin from One Fire

A HEAVY stand of small, pole-size longleaf pines in northern Florida was thinned to leave about 300 trees per acre evenly spaced. These trees were the straightest and most thrifty in the original stand. Conditions were ideal for rapid growth of high-quality timber.

A hot fire caused by human carelessness in burning broomsedge swept through the forest. It killed many of the trees and weakened all of them. Soon a heavy epidemic infestation of bark beetles developed, killing most of the living trees already weakened by the fire.

On these two pages are pictures that show vividly what the fire did. The picture above on the opposite page shows the stand after thinning. Three hours later the fire occurred. The lower picture was taken the next day; tree No. 4, felled by the fire, may be seen in the right foreground. The growing trees have been badly damaged, the undergrowth has been destroyed, and the possibilities of a future forest appear very uncertain.

Five years later the picture on this page was taken, confirming the prediction of the earlier view. Only a few scattered pine seedlings may be seen in the grass. Nearly a half century will be required to get a full timber crop.

In northern Florida is a tract of land that, for about 20 years following logging of the virgin longleaf and slash pine, burned over each winter Under management for several years as a part of the Osceola National Forest, pine seedlings have sprung up from seeds blown from neighboring

The effects of the fire are still very evident 5 years later (April 13, 1937). This photograph shows the same area pictured on the opposite page.

F-345171





A-F-266890

B-F-345177

A, Burned over frequently for 20 years. Picture taken in April 1932, after the tract had been under protection as part of the Osceola National Forest. Pine seedlings had begun to spring up in the grass. B, Five years later (April 1937); the whole tract is practically covered with pines mostly 6 to 12 feet in height.

trees. The pictures on this page show how keeping out fires has brought results. The tract is headed back to productivity and profits.

Another example: In central Arkansas a large lumber company has under management and protection 60,000 acres of forest. The pictures on page 17 show a part of this area. This forest land formerly was burned over regularly under the prevailing custom of the people of annually burning the woods. Under protection for several years, it has grown up to a thrifty, valuable stand. The trees are growing rapidly and the yearly increase in wood volume on the tract is valued at \$1 to \$3 per acre.



F-206388

A slow fire burned through this shortleaf and loblolly pine stand in central Arkansas before this picture was taken, but already protection is beginning to show results (February 1926)



F-247304

On the same land shown in the top picture after 4½ years of protection this thrifty and valuable stand of young timber is growing rapidly (July 1930).



F-231262

Trees 4 years after planting, age of trees 5 years (November 1928).



F-254265

The same stand of pines 6 years after planting or at the age of 7 years, now 15 to 25 feet in height (April 1931).

Profitable for Big Owners

UNABLE to sell thousands of acres of its clear-cut pinelands, a large lumber company in eastern Louisiana reforested 30,000 acres by planting seedlings of longleaf, slash, and loblolly pines. The planting was done in the decade from 1920 to 1930.

At the time planting was begun the land is estimated to have been worth \$1 per acre. It cost \$4 per acre for planting, making a total investment of \$5 per acre. When the trees were 12 years old the company harvested 5 cords of pulpwood and 1 cord of top wood per acre. This was worth not less than \$1 per cord on the stump, or \$6. There were left 18 cords per acre.

The planting was done primarily to keep a large paper mill running, but growth has been such that the company can cut more pulpwood and in a few years will also be able to keep a sawmill busy, besides cutting poles and piling.

After holding cut-over land in South Carolina for many years, during which time the local people burned it over regularly, a large southern railroad began planting small pines on open lands of an 11,000-acre tract and protecting the trees from fire. The success of this reforestation project, as illustrated on the following page, has been real, and the property is now known as one of the best-paying tracts of timber in the section.

Seven years later or 13 years after planting, the trees pictured on the opposite page are 35 to 45 feet in height and 6 to 9 inches in diameter. Stumps from the virgin longleaf trees are plainly visible, but those from recent pulpwood cutting are low and mostly hidden by the grass (September 1937).

F-353343





F-230968

Slash pine plantation owned by a large southern railroad. The seedlings were set out in 1926, having been grown from seed planted in the nursery in 1925, and, when photographed in November 1928, had completed the third year's growth.



The same plantation shown in upper picture photographed in March 1936. These 10-year-old pines are 30 to 40 feet in height and ready for an improvement thinning.

F-319941

Paying Business for Farmers

TWO FARMERS in the southern Coastal Plain section of Georgia make good money by growing timber crops. Each was "land poor" with worn-out, idle sandy land. Each began planting pine seedlings to make his land work and now both have young stands of forest trees ranging from 30 to 40 feet in height and 6 to 9 inches in breast-high diameter.

Part of the 72 acres of poor land set in pine seedlings in the summer and fall of 1927 after the oat crop was harvested, and in the spring of 1928 by a young farmer. The seedlings were spaced 10 x 10 feet apart, or 436 per acre. Fire was excluded from this typical flat-woods land. When the trees were 9 and 10 years old, in the winter of 1935-36, the owner was offered \$4,200 for the timber and the land and 4 years later (1939) he was offered \$6,000. The latter figure, counting the land at \$15 an acre or \$1,080 for the tract, shows an increased value of nearly \$70 per acre. The trees thus had made about \$5.60 an acre a year.

F-373470





F-373461

A land-poor farmer with a few thousand worn-out sandy acres began planting pine seedlings in the spring of 1926. These pictures are taken in a block of 1,000 of the trees which he turpentineed during the two seasons 1937 and 1938. Each year's working face is 12 inches in height, and the trees are growing, and their faces are healing over. When asked about the value of the stand, the owner replied that he considered it worth about \$100 an acre. Altogether he has planted more than 2,500,000 trees.

F-373462



F-373464

Southern Forestry at the Crossroads

NO OTHER region offers greater possibilities for continuous cropping of timber than the South. Its soils are well adapted to tree growth. Warm and humid winds that sweep up from the Gulf of Mexico supply an abundance of moisture over the region. The growing season is long. The native southern pine species are among the most rapid growing of the softwoods.

Recently the number of pulp and paper mills in the South has increased rapidly. Already, there is the beginning of the development of a southern newsprint-paper industry.

The coming of new wood-using industries to the South should stimulate the production of timber as a crop—should create a new cash crop to replace or supplement cotton and to put lands at present unproductive back to work. Forest-land owners in areas adjacent to the new mills will in all probability have a cash market for trees cut in thinnings, defective trees, and tops of sawlogs and poles for which there has previously been only a limited sale, if any.

This same new market, it should be kept in mind, will be open for all pine trees down to 5 inches in diameter, which is below pole and sawlog sizes. Such trees are usually capable of rapid and increasing growth in volume. However, the indiscriminate harvesting of these small trees for pulpwood and the cutting of the larger trees for poles, piling, and sawlogs might easily result in forest lands becoming so completely cleared as to produce little of value for years to come. Forest-land owners cannot afford to follow such a course.

Forestry in the South stands today at the crossroads. The need is for adoption of good forest-management methods that will keep the woodlands permanently productive and profitable.

For further information consult your county agricultural agent or write to your State forester at the State capital, your extension forester at the State college of agriculture, or the

UNITED STATES DEPARTMENT OF AGRICULTURE—FOREST SERVICE

WASHINGTON, D. C.

NEGATIVE NUMBER FOR BACK COVER ILLUSTRATION—F-266862

U. S. GOVERNMENT PRINTING OFFICE: 1940



